

MACKENZIE GIRLS Programming Invitational

2018



WELCOME!

We are excited to welcome you to the Second Annual Mackenzie Girls Programming Invitational! Today, you will have the opportunity to compete against and learn from other female programmers. Through this contest, Mackenzie CPT hopes to share our love of competition, teamwork, and coding.

The Mackenzie Girls Programming Invitational was conceived as a response to the gender imbalance at many programming competitions. We are encouraging more teams to participate in our contest each year in the hopes that girls from across the TDSB build their programming skills and attend more competitions.

We hope you have fun today and that you sign up for more contests and challenge yourselves to program more in the future.

- The Mackenzie Computer Programming Team

DIVISIONS

The Mackenzie Girls Programming Invitational consists of two divisions: Beginner and Advanced. The divisions reflect the levels of learning in grades 10-12 ICS courses. Each division will be prompted to solve six problems with increasing difficulty. The two divisions are separate and no single team may participate in both. Thus, you and your teacher must determine which division is best for your team before the contest and register in said division.

The Beginner division is for first year programmers. The easiest problem will focus mostly on basic logic and syntax. As you move through the problem set, you may encounter more math, String manipulation, basic programming structures, and more difficult concepts. The last problem will be more difficult and involve some basic knowledge of algorithms and/or using multiple methods/procedures. Nonetheless, do not worry if this seems intimidating—just do the best you can and have fun! It is recommended that you register for the Advanced division if you have more than one year of programming experience.

The Advanced division is for more experienced (two or more years) programmers. For this division, you should know String manipulation, more complex math, programming structures, and basic algorithms. For practice, you can go to <http://mcpt.ca/cpt-problems/>.

SCHEDULE

8:30 a.m. → Registration Begins

9:00 a.m. → Opening Remarks

9:15 a.m. → Guest Speaker Presentation

9:45 a.m. → Orientation + Practice Problem

10:00 p.m. → Competition Begins

1:00 p.m. → End of Competition + Lunch

1:30 p.m. → Awards Ceremony

2:00 p.m. → End of Event

RULES AND SCORING

RULES:

1. You will be allowed 3 hours to complete this contest.
2. Each team is permitted to use one computer/laptop.
3. You may only use the internet during the contest for documentation of your programming languages and to access the judge. Sites such as StackOverflow, compsci.ca, etc. are not permitted.
4. Offline, prewritten, electronic code is allowed and you may bring printed resources.
5. You may not talk to members of other teams during competition.
6. You may use any one of the programming languages supported by the judge (Java, Python 2, Python 3, C, C++, Pascal, PHP, Turing).
7. In the event of internet failure, one of the contest volunteers will be scoring your submissions. In this situation, you will raise your hand once you have finished the problem and a volunteer will record the time before checking your submission.
8. In the event of a tie, the team who scored higher on the harder problems will win.
9. No cell phones are permitted during the contest.
10. Bring your own calculators, writing utensils, and paper.

SCORING:

1. Each problem is scored out of 100 points. You may be awarded partial points if your program is only able to solve some of the test cases.
2. You must use Standard IO (not File IO) to receive any points!
3. A time bonus of up to 36 points is available for completing each problem. The value of the time bonus begins at 36 points and decreases by 1 point every 5 minutes past from the start time of the contest. Time bonus is awarded for both perfect solutions and solutions that only received partial points.
4. A time bonus is not awarded if your submission receives zero points.

JUDGE TUTORIAL

LOGGING IN:

To login to your account, you must use the following links:

Beginner Division: judge.mcpt.ca/beginner

Advanced Division: judge.mcpt.ca/advanced

You will be directed to a page like the one to the right.

Enter the username and password given to you on the day of the competition.

Welcome

Please log in

Username:

Password:

HOME PAGE:

When you first sign in, you will be brought to a page that looks like this:

Server time: 21:49:51
Time left: 01:10:08

Overview

General information

The contest is currently running.
The contest started at 20:20:00 and will end at 23:00:00.

Task overview

Task	Name	Time limit	Memory limit	Type	Files
SA	<<<3<33<333	2 seconds	512 MiB	Batch	SA[.php .rb .c .tbc .py .cpp .hs .pas .java]
SB	Checking Time	2 seconds	512 MiB	Batch	SB[.php .rb .c .tbc .py .cpp .hs .pas .java]
SC	Interview Progression	2 seconds	512 MiB	Batch	SC[.php .rb .c .tbc .py .cpp .hs .pas .java]
SD	Interview Dominance	2 seconds	512 MiB	Batch	SD[.php .rb .c .tbc .py .cpp .hs .pas .java]
SE	Speed Interviewing	2 seconds	512 MiB	Batch	SE[.php .rb .c .tbc .py .cpp .hs .pas .java]

On the left side, information about the contest can be seen, including the **time left** for participants to write the contest, as well as a **sidebar** containing links to various problems.

DOWNLOADING PROBLEMS:

For each problem, the green button saying ‘Download task statement’ is used to download a PDF with the problem statement for a specific problem. **Problem details** are visible on the page, including time and memory limits for the problem.

The screenshot shows a web interface for a programming competition problem. At the top left, it displays 'Server time: 21:52:13' and 'Time left: 01:07:46'. On the left sidebar, under the 'Statement' section, the 'Submissions' option is highlighted with a red oval. The main content area shows the problem title '**<<<3<33<333 (SA)**' with a 'description' link. Below the title is a 'Statement' section with a green 'Download task statement' button circled in blue. To the left of the statement text 'Some details' is another red oval. A table below provides time and memory limits: Type (Batch), Time limit (2 seconds), and Memory limit (512 MiB).

SUBMITTING SOLUTIONS:

When the ‘**Submissions**’ option is selected for any problem, a list of all of your **previous submissions** are displayed, with details about each submission. You can also submit your solution to a problem on this page by uploading your code to the judge. Make sure you **select the correct language** before submitting or you will receive a score of 0. If you are using Java, make sure the name of your class is the same as the name of the question (eg. SA).

The screenshot shows a 'Checking Time (SB)' submissions page. The left sidebar has the 'Submissions' option highlighted with a red oval. The main area features a 'Submit a solution' form with fields for 'Choose File' (No file chosen) and 'C++11 / g++' (selected from a dropdown). A large teal arrow points from the 'Submit' button towards the 'Previous submissions' table. The table lists two previous submissions: one from 2018-03-01 at 17:10:30 with a score of 60/100 and another from 2018-03-01 at 16:06:54 with a score of 100/100. Each row includes a 'details' link and a 'Download' button.

SUBMITTING USING TURING:

Since Turing is special, you cannot simply submit your ".t" file from your computer (like you can for other languages).

Instead, before you submit a Turing file, you must go to judge.mcpt.ca/turing/, which looks like the image below.

Turing Compiler

Instructions:
Paste your Turing code here and click **Submit** to compile the file.
The compiled file will be automatically downloaded.
Submit the compiled file to the judge.

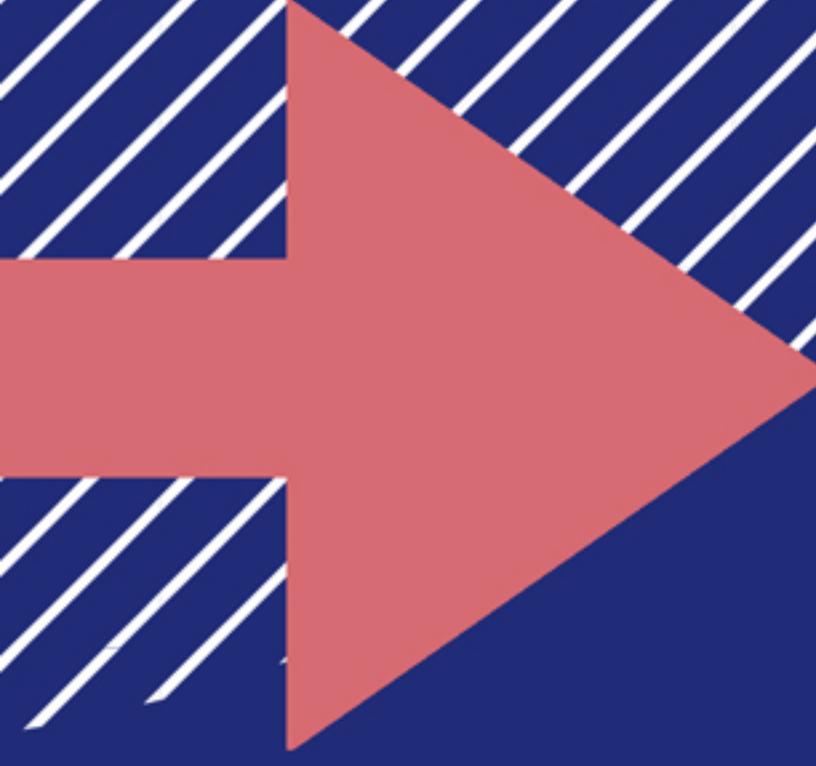
You submit your code by copying and pasting it into the text box. If it is valid Turing code, it will compile. Then, your computer should prompt you to download a file. Save this file to your computer and submit it to the judge using the method described above.

LEADERBOARD

There is a contest leaderboard that allows you to gauge your performance in relation to the other participants.

The leaderboard shows the total scores for each team/user, as well as their score and result on individual problems.

You can access this leaderboard at judge.mcpt.ca/rankings.



MAP OF MACKENZIE

Here is a map of Mackenzie's first floor so that you can navigate with ease.

There will also be volunteers and signs posted to guide you.

